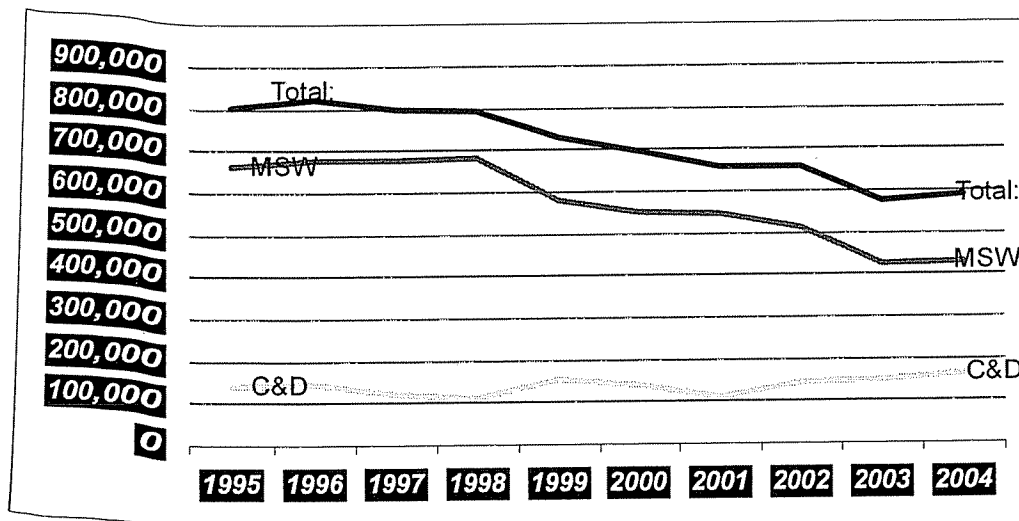




**Division of Waste Management  
Public Works  
Annual Report For Calendar Year 2004**

***I. The Waste Stream***

The reported Municipal Solid Waste (MSW) stream that was landfilled from Nashville and Davidson County for calendar year 2004 has dropped 234,811 tons from what was reported in 1995. This 35 percent reduction in tons of trash is consistent with the 2003 tonnage figure. The chart and table below show the decline in MSW tons.



Year	C&D	MSW	Total
1 995	141,360	663,057	804,417
1 996	147,018	677,821	824,839
1 997	121,018	679,362	800,380
1 998	110,226	681,085	791,311
1 999	153,196	579,657	732,853
2 000	142,240	552,739	694,979
2 001	109,987	547,438	657,425
2 002	143,479	514,543	658,022
2 003	151,103	425,234	576,337
2 004	163,893	428,246	592,138

Construction and Demolition Debris (C&D) averages at approximately 153,000 tons a year. This year's reported tonnage is 163,816.

### **Where Does Local MSW and C&D go?**

There are no disposal points for MSW within Nashville's borders. All of the MSW is transported outside of the jurisdiction. Allied Waste handled approximately 46.18 percent of the total waste from Nashville/Davidson County in 2004. Waste Management Incorporated disposed of 25.59 percent of the MSW while Montgomery's Bi-County landfill received 0.56 percent of the MSW. Southern Services Construction & Debris Landfill located within Davidson County took 23.94 percent of the total waste while MS-COT Construction and Demolition Debris landfill in Davidson County received 3.73 percent.

### **Urban Services District and General Services District**

Currently there is no way of knowing the precise number of tons that come from the Urban Services District (USD) or the General Services District (GSD). Metro is one of many collectors in the USD. With Metro's and its contractors' trucks, a total of 135,556 tons was known to be from the USD. This tonnage, however, does not include the commercial waste or the private (non-Metro collected) residential waste from the USD.

### **How many miles in additional hauling did the closing of thermal add?**

**2004**

<b>6,161.63</b>	Truck loads
<b>221,818.83</b>	Miles to landfill
<b>221,818.83</b>	Miles back
<b>443,637.65</b>	Total

### **Recycling**

**The public sector's** recycling rate is 51 percent. Metro Government, the City of Lakewood, and Forest Hills were responsible for 188,494 tons of recycling and 182,096 tons disposed. (Recycling Tons divided by [recycling tons plus disposed tons.] )

The table below shows the tonnage recycled by Metro Government for each of the last four reported years.

<b>2004</b>	<b>2003</b>	<b>2002</b>	<b>2001</b>	<b>2000</b>
188,494	100,089	69,892	43,579	37,348

A key contributor to this year's increase in tonnage recycled was the emphasis on Metro's green demolition practices. Both the old thermal facility and the demolition projects by the Metro Development and Housing Authority accounted for 71,953 recycled tons. Excluding the Green Demolition tons, the Public Sector's recycling rate would be 39 percent.

**Public Sector Recycling**

Materials Collected (tons)	2004	2003
Auto Fluids	22.03	18.16
Batteries	36.13	39.67
Electronics	4.85	n/a
Glass	1,322.89	1,798.30
Metals	6,506.95	2,275.36
Mulch	88,580.41	74,201.72
Green Deconstruction	67,011.00	0.00
Curby and Curby Dumpsters	12,726.95	13,608.78
Tanks	5.49	
Paper	4,459.72	4,477.06
Plastic	316.12	266.23
Tires	7,501.83	3,404.15
Total Public Recycling	188,494.37	100,089.43

**The private sector's** recycling rate is 39 percent. The private sector consists of non-governmental entities such as businesses and private homes that do not have trash and recycling collection paid from tax monies. In 2004, the private sector recycled 263,418 tons and disposed of 410,042 tons. (Recycling Tons divided by [recycling tons plus disposed tons.] )

**Private Recycling**

Materials Collected (tons)	2004	2003
Electronics	155.00	123.42
Glass	3,290.00	3,292.00
Metals	126,886.60	298,687.00
Grease	932.00	126.50
Pallets	30,318.84	14,262.00
Paper	96,416.20	81,539.64
Plastic	13.39	n/a
Textiles	5,406.06	5,062.44
Total Private Industry	263,418.09	403,093.00

**The combined (public and private) recycling rate** for the Nashville/Davidson County jurisdiction for 2004 is 43 percent. The jurisdiction had 451,912 tons recycled and 592,138 tons of MSW and C&D disposed.

Total Recycled Tons	2004	2003
Davidson County / Region Total:	451,912.46	503,182.43

## **II. Cost**

### **Division's Budget**

The cost per ton has dropped 39 percent, from \$140 to \$85 per ton, between 2002 and 2004. The total budget has also dropped 32 percent, from \$34 million to \$23 million, between those same years.

<b>Year</b>	<b>FY 2002</b>	<b>FY 2003</b>	<b>CY 2003</b>	<b>CY 2004</b>
Operational				
Budget	\$34,235,610	\$31,090,852	\$24,604,045	\$23,296,950
Revenue	\$5,549,229	\$4,657,508	\$4,246,200	\$4,978,161
Net	\$28,686,381	\$26,433,344	\$20,357,845	\$18,318,789
Tons	204,581	232,688	229,669	215,935
Cost Per ton	\$140	\$114	\$89	\$85

### **Residential Trash**

The table below takes the operational collection budget and breaks it down to a per weekly collection cost for residential trash collection. It also takes the disposal expense and also breaks it down to a per weekly disposal cost per household.

Residential Trash				
Collection	<b>FY 2001</b>	<b>FY 2002</b>	<b>CY 2003</b>	<b>CY 2004</b>
Operational Budget	\$7,531,693	\$7,914,773	\$8,081,018	\$8,358,889
Per Weekly Collection	\$1.11	\$1.17	\$1.20	\$1.24
Disposal	\$14,668,724	\$12,483,998	\$4,089,914	\$3,979,340
Per Weekly Disposal	\$2.17	\$1.85	\$0.61	\$0.59
Yearly full cost to customer	\$170.77	\$156.91	\$93.62	\$99.51

The full cost is the operational and disposal budget plus expenses of the program not placed in the operational budget. In 2004, this amount came to the following:

<b>Indirect</b>	<b>Depreciation</b>
\$441,000	\$156,881

The total cost for both collection and disposal per residential collection point for the year came to \$86.21.

### **Curbside Recycling**

The table below takes the operational collection budget and breaks it down to a per monthly collection cost for residential recycling collection stop. It also subtracts the disposal cost avoided because of recycling and the revenue received for the material.

The landfill avoidance savings of approximately \$790,952 plus the revenue received of \$159,246, means that Curby has saved \$950,198 since its implementation. If these 30,236 tons since Curby's first pickup had gone in the trash, then 98,954 additional miles would have been traveled by trash trucks carrying these tons to the landfill.

<b>Curby:</b>	<b>CY 2002</b>	<b>CY 2003</b>	<b>CY 2004</b>
<b>Operational Budget</b>	<b>\$650,749</b>	<b>\$1,303,362</b>	<b>\$1,346,375</b>
<b>Per Monthly Collection Cost:</b>	<b>\$0.94</b>	<b>\$1.03</b>	<b>\$1.04</b>
<b>Disposal</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$0.00</b>
<b>Revenue from Sale of Material</b>	<b>\$30,487</b>	<b>\$66,598</b>	<b>\$62,162</b>
<b>Disposal Avoidance</b>	<b>\$155,740</b>	<b>\$317,044</b>	<b>\$318,168</b>
<b>Net Full Cost Per Customer Per Month</b>	<b>\$1.29</b>	<b>\$1.46</b>	<b>\$1.42</b>

The full cost is the operational and disposal budget plus the expenses of the program not placed in the operational budget. In 2004, this amount came to the following:

<b>Indirect</b>	<b>Depreciation</b>
\$182,547	\$691,464

The total cost for both collection and disposal per residential collection point for the month is \$1.42 or \$17.04 per year.

### **Commercial Trash Collection**

Commercial trash collection includes the dumpster box collection, the six-day a week night and day time collection of down town Nashville. Over the past few years, Metro has been able to continue the same level of service with less trucks. This has resulted in lower cost.

	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>CY 2003</b>	<b>CY 2004</b>
Operating Budget	\$947,503	\$792,874	\$638,368	\$671,321	\$713,290
Tons	32,626	33,843	34,026	30,236	31,673
Cost Per Ton	\$29.04	\$23.43	\$18.76	\$22.20	\$22.52

### **Brush Collection**

During the first half of calendar year 2004, Metro had the services of a brush collector. For the second half of the year, Metro did not have a contractor to assist in collecting the residential brush. Metro utilized its four knuckleboom trucks and its trash trucks on weekends to keep pace with the brush set out.

### **Brush Collection**

Year	Tons	Operational Budget	Cost Per Ton
FY 1999	13,229	\$2,572,466	\$194.46
FY 2000	12,857	\$2,219,321	\$172.62
FY 2001	12,464	\$2,246,215	\$180.22
FY 2002	19,150	\$2,291,846	\$119.68
CY 2003	21,103	\$2,175,600	\$103.09
CY 2004	20,798	\$2,194,198	\$105.50

### **Household Hazardous Waste Facility**

Metro's Household Hazardous Waste (HHW) facility won SWANA's (Solid Waste Association of North America) Bronze Excellence Award this past year. It continues to serve more customers at less cost.

Year	Cost	Operational Days	# of Customers	Cost Per Customer	Tons
FY 2000	\$293,000	19	1,584	\$184.97	101
FY 2001	\$125,000	12	1,776	\$70.38	110
FY 2002	\$149,000	300	5,287	\$28.18	148
FY 2003	\$204,390	361	9,930	\$20.58	397
CY 2004	\$140,000	361	10,827	\$12.93	314

### **Recycling Convenience Centers**

The number of customers to Metro's two recycling/convenience centers grew by 170 percent between 42,133 to 117,111 in 2000 and 2004 respectively.

The two Recycling/Convenience Centers are staffed community assets where people can bring such things as their refrigerators to have the freon safely evacuated and recycled and the metal from the refrigerator recycled or their tires to be recycled. Large bulk items can also be brought as well as household trash to be disposed of in an environmentally friendly manner. The centers' staff encourages people to recycle their plastic, glass, all of their paper, and metal. All of this has encouraged more people to come to these centers. Each site is open seven days a week.

Year	CY 2004
<b>Operating Budget</b>	\$1,463,768
<b>Revenue</b>	(\$439,754)
<b>Net Operating Budget</b>	\$1,024,014
<b># of Customers</b>	117,111
<b>Cost Per Customer</b>	\$8.74

<b>Year</b>	<b>FY 2000</b>	<b>FY 2001</b>	<b>FY 2002</b>	<b>CY 2003</b>	<b>CY 2004</b>
<b>Net Cost</b>	\$827,001	\$992,532	\$736,925	\$1,025,456	\$1,024,014
<b># of Customers</b>	42,133	50,875	88,086	104,958	117,111
<b>Cost Per Customer</b>	\$19.63	\$19.51	\$8.37	\$9.77	\$8.74

### **Recycling Drop-Off Sites**

The overall cost of the drop-off sites continue to go down and is expected to drop even further in the coming year. The number of operating sites has also dropped from 13 to 10.

<b>Year</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
Cost	\$1,044,025	\$930,117	\$882,872	\$744,876	\$516,236
Tons	8,009	9,045	7,911	6,515	5,820
Cost Per Ton	\$130.36	\$102.83	\$111.60	\$114.33	\$88.70

A major problem with un-staffed sites, such as these, is that a few people dump materials other than recyclables at them. The sites can become unsightly and unwanted by the host of such facilities. Several of the Kroger locations have divested themselves of the drop-off sites because of this illegal dumping and, in some cases, for expansion purposes. Those that have **closed** were in Donelson, Inglewood, and Antioch. Several-- Hermitage, Bellevue, and Joelton-- also were **interrupted in service** while DWM found new locations

	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	
Antioch Comptons	188	307	327	158.8	n/a	Ended
Bellevue	1,405	1,560	1,502	1386.6	1,326	Interrupted
Charlotte Park	n/a	n/a	0		116	New
Clarksville Hwy	182	237	226	209.58	99	Ended
Crescent Plaza (Sat)	220	237	236	132.52	157	
Donelson	625	330	0			Ended
Elysian Fields (Sat)	312	325	331	236.51	229	
Granberry (Sat)	410	394	367	280.66	308	
Hermitage	753	854	898	879.82	886	Interrupted
Hillsboro High	1,877	2,327	2,283	1713.31	1,657	
Inglewood	672	591	0		n/a	Ended
Joelton	74	95	103	73.86	153	Interrupted
Nashville Tech	1,049	1,515	1,406	1212.1	596	Ended
Rivergate	242	272	232	231.16	293	
Total Tons:	8,009	9,045	7,911	6514.92	5,820	

## Revenue

The revenue coming into the solid waste fund comes from several sources. Tip fees at the Metro Bordeaux Mulch Yard, the Recycling-Convenience Centers, and previously at Nashville Thermal Transfer Corporation (NTTC); there is also revenue that comes from the municipal solid waste and construction demolition debris that is generated or disposed within Davidson County. There is interest on Metro's monies and revenue from the sale of material collected such as recyclables. Occasionally, grant monies are provided by entities such as the State of Tennessee.

Year	FY 2000	FY 2001	FY 2002	FY 2003	CY 2003	CY 2004
Tip Fees	\$2,196,564	\$2,890,221	\$2,670,062	\$898,997	\$885,587	\$1,216,68
Metro Investment						
Pool	\$355,846	\$400,943	\$336,888	\$103,155	\$83,734	\$52,07
Sales	\$42,038	\$49,264	\$261,062	\$255,717	\$291,057	\$241,52
MSW/C&D Fees	\$2,061,096	\$2,009,699	\$2,558,862	\$2,639,178	\$2,895,698	\$2,705,80
Inspection Fees	\$7,050	\$8,553	\$8,800	\$3,650	\$5,125	\$6,52
Other	\$0	\$0	\$202,363	\$85,000	\$85,000	\$755,55
Total:	\$4,662,594	\$5,358,680	\$6,038,037	\$3,985,697	\$4,246,201	\$4,978,16

## III. Waste Management Awareness

### A. Schools:

1. Presentations: more than 2,000 students, preschool through college-age, have been reached by recycling presentations in 2004. Some of the schools/educational centers include:

- Adventure Science Center
- Hume Fogg High School
- Lakeview Design School
- JFK Middle School
- Vanderbilt University
- Rosebank Elementary
- YMCA After-School Program
- Project Read Summer Reading Festival
- Richland Park Library
- Nashville Child Center
- Caldwell School
- Joelton Home School Group
- Shelby Park Community Center
- Glenn Enhanced Option School

2. Recycling at schools: more than 50 schools have received recycling dumpsters and/or carts. Two schools actively compost food waste.

B. Community

1. Website: the Division's website, [www.nashville.gov/recycle](http://www.nashville.gov/recycle) is now comprehensive and includes information about each aspect of waste management. We improved the brush schedule information on the web site and began to develop the Route Lookup system that is currently running. In 2004, there were a total of 58,437 visits to the web site:

Average per day: 159

Average length of visit: 2:43

Repeat visitors: 5,406

Average number of times for repeat visitors: 1.65

2. Events: during 2004, the Division continued its outreach to the community by participating in several festivals and special events. Total attendance at these events is estimated at over 35,000 people and includes:

Nashville Lawn and Garden Show

Nashville Zoo at Grassmere, Earth Day

Mayor's First Day Festival

Nashville Earth Day Festival

Adventure Science Center, Earth Science Week

TDEC, Thermometer Exchange

3. Presentations: presentations are given to community and civic groups, neighborhood associations upon request throughout the year. Over 25 presentations were made last year. Some of the meetings we have attended include:

Greenwood Neighborhood Association

Hillsboro Community Meeting

Madison Town Hall Meeting

North West Civic Association

4. Master Composting Classes: the Division began a partnership with the Nashville Zoo in offering Master Composting Classes in 2004. There were 42 graduates of this class.

5. Pledges: individuals visiting our web site may sign a pledge that they will recycle. In 2004 we received 58 pledges from the web site.

6. Call Center: the staff at the call center (880-1000) continues to answer waste management-related questions. In 2004, there were a total of 60,006 calls:

General Information: 15,275

New Automated Trash Inquiries: 183

Brush: 17,067

Bulk: 6,999

Dead Animal: 2,582

Recycling: 11,987

Trash: 5,221

Other: 692

7. Metro Public Works provides recycling dumpsters for 15 multi family properties, 4 non profit organizations, and 7 Metro facilities. Metro Public Works also provides in-house recycling for over 90 Metro Government locations

C. Businesses

1. Waste audits: the Division conducted more than 24 waste audits over the past year.

D. Communications & Advertising

1. Media: In 2004, the Division was covered by every major media outlet in the Nashville area and generated more than 147 news print stories. This can be seen through the general news coverage of our various events and activities, special features done about our programs and/or staff members and an ongoing monthly column.
2. Hispanic Outreach: the Division continues to work with a Hispanic Marketing consultant to reach the growing Hispanic population in Nashville. Our efforts have included:
  - Ad and listing in the Hispanic Yellow Pages
  - Spanish language billboard on Nolensville Road
  - Spanish version of the website
  - Spanish translation of the trash newsletter
  - Spanish translation of the trash brochure
  - Spanish translation of the sticker inside Metro's new trash carts
  - Spanish translation of trash tags
  - Spanish language recycling brochure
3. Kiosk/Kiosk Trailer: the kiosk, the Division's eight-foot tall interactive educational display is set up libraries and school for at least a week at a time and is used in conjunction with a recycling presentation / educational program
  - Adventure Science Center
  - Green Hills Library
  - Richland Park Library
  - Croft Middle School
  - Hunter's Lane High School
4. Printed Materials/Signage: various pieces of literature have been created for distribution at community/school presentations and events.
  - Business Brochure
  - Trash cart newsletter
  - Trash Cart brochure

Household Hazardous Waste Brochure  
Children's Brochure

E. Awards & Recognition

Once again the Division has been honored for its outstanding work and achievement by awards from several national organizations and by being invited to present at a state-wide recycling conference.

Awards:

SWANA: Employee of the Year (Mike Shaw)  
SWANA: Bronze Award of Excellence (Special Waste Facility)  
Waste Age Magazine: Best Design (Recycling Dumpster)

Presentations:

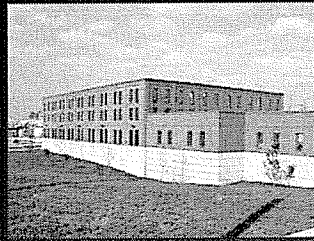
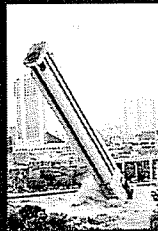
Tennessee Recycling Coalition Conference (Routing / Special  
Event Planning / Household Hazardous Waste Facility)

Item	Cost
Trash: Publications/Creative Development/Media Relations	\$134,264
Hispanic Outreach (Trash & Recycling)	\$13,030
Research	\$4,382
HHW Brochure	\$2,100
Children's Brochure	\$1,313
Recycling Activities	\$32,076
Web	\$1,819
Misc	\$4,328
Customer Service Center	\$355,702



**Metro Nashville**  
DISTRICT ENERGY SYSTEM

***Fiscal Year 2004  
Thermal and District Energy System  
Report to Metro Council***



#### **IV. District Energy System**

**Question 1:** Performance Guarantees Contained Within Metro's Contract With The Contractor For The Design, Construction, Improvement, Operation And Management Of The District Energy System

*Answer:*

- *Construction and Operations period performance guarantees in place per Management Agreement*
- *There have been no Liquidated Damages assessed the Contractor*
- *Parent Company Guaranty sufficient to cover any unforeseen damages/circumstances per its terms*
- *New DES assumed operation responsibilities on December 16, 2003*
- *Acceptance Tests to be completed this winter*

**Question 2:** Number Customers Served By NTTC & The New DES During FY04

*Answer:*

- *NTTC Buildings During FY04 (July 1, 2003 through December 16, 2003): [37]*
- *DES Buildings During FY04 December 17, 2003 through June 30, 2004): [37]*

**Question 3:** Amount of Time Thermal Service to Customers Has Been Interrupted & The Reason for Each

*Answer:*

- *Thermal: not applicable*
- *DES: none*

**Question 4:** Number of NTTC Personnel Hired & Still With Metro or DES in FY04

*Answer:*

- *Number of Thermal Personnel With Metro: 22*
- *Number Thermal Personnel With DES Operation, Constellation Energy Source, Inc.: 19*

**Question 5:** Number & Type OSHA Reportable Accidents & Lost Time Accidents At Thermal & DES During FY04

*Answer:*

- *NTTC Reportable Accidents: No reportable accidents and no lost time*
- *DES Reportable Accidents: One reportable accident (employee struck head on beam) and no lost time*

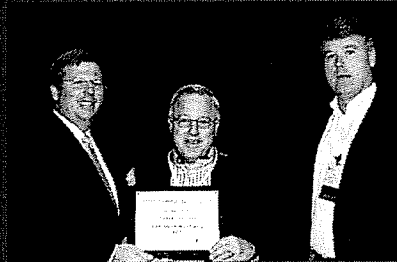
**Question 6:** Full Cost of NTTC Operations during FY04

*Answer:*

<i>Full Cost of Thermal Operations FY 2004</i>	<i>Un-audited FY 2003</i>	<i>Un-audited FY 2004</i>
<i>Projected Metro Fee Paid to NTTC</i>	<i>\$8,525,265</i>	<i>\$2,602,697</i>
<i>Other Metro NTTC Related Costs</i>	<i>\$488,972</i>	
<i>NTTC Diverted MSW T/D Costs</i>	<i>\$0</i>	
<i>Ash Related Costs</i>	<i>\$148,216</i>	
<i>Indirect Costs</i>	<i>\$629</i>	
<i>Total Gross Metro Costs</i>	<i>\$9,163,082</i>	<i>N/A</i>
<i>Less Total NTTC Tipping Fee Revenue</i>	<i>N/A</i>	<i>N/A</i>
<i>Total Metro Costs</i>	<i>N/A</i>	<i>N/A</i>

## DES Receives Awards from the International District Energy Association

- For 2003, the International District Energy Association (IDEA) presented the DES, operated by Constellation Nashville District Energy, LLC, two awards:
  - Gold Award for Most buildings signed up for service in 2003 (37 buildings); and
  - Silver Award for second-most square footage signed up for service in 2003 (Approximately 8 million)
- IDEA President Rob Thornton presents one of the two awards to DES Project Administrator Harvey Gershman and CES Business Development Manager William Drewery



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**Question 7:** Full Cost of DES Operations During FY04  
(DES started operation(s) on December 17, 2003)

**Answer:**

<i>Item</i>	<i>FY 04 Actual</i>
<i>FOC Basic</i>	<i>\$1,842,631</i>
<i>9th</i>	
<i>Chiller</i>	<i>\$17,266</i>
<i>Chemicals</i>	<i>\$63,670</i>
<i>Engineering</i>	<i>\$0</i>
<i>Insurance</i>	<i>\$15,958</i>
<i>Marketing</i>	<i>\$19,809</i>
<i>Metro Incremental Cost</i>	<i>\$273,767</i>
<i>Water/Sewer</i>	<i>\$237,842</i>
<i>Natural Gas</i>	<i>\$1,756,032</i>
<i>Electricity</i>	<i>\$1,325,005</i>
<i>EDS Repair and Improvement</i>	<i>\$81,253</i>
<i>EDS Surcharge</i>	<i>\$32,497</i>
<i>Debt Service</i>	<i>\$1,723,040</i>
<i>Operating Reserve Funding Deposit</i>	<i>\$424,158</i>
<i>CES Fuel Efficiency Adjustment</i>	<i>\$108,506</i>
<i>Total:</i>	<i><b>\$7,921,434</b></i>

**Question 8:** Metropolitan Government's, The State Of Tennessee, And The Aggregate Of Private Customers Heating And Cooling Costs Annually During FY04

**Answer:**

<i>Customers</i>	<i>Steam</i>	<i>Chilled Water</i>	<i>Total</i>
<i>Metro</i>	<i>\$1,332,457</i>	<i>\$2,586,787</i>	<i>\$3,919,244</i>
<i>State</i>	<i>\$2,549,880</i>	<i>\$3,254,156</i>	<i>\$5,804,036</i>
<i>Private</i>	<i>\$1,210,326</i>	<i>\$2,711,051</i>	<i>\$3,921,377</i>
<i>Total</i>	<i>\$5,092,663</i>	<i>\$8,551,993</i>	<i>\$13,644,656</i>

**Question 9:** Amount Metro Paid For Additional DES System Capacity Charge Per Annex C, Section B.1 of Service Agreement in FY04

**Answer:**

- *Metro Funding Amount – \$517,216.55*

**Question 10:** Annual Cost of Maintaining DES Distribution System Above \$150k Allowance During FY04 (1)

**Answer:**

	<i>Capital Projects</i>	<i>EOM</i>	<i>Total</i>
<i>FY 04</i>	<i>\$2,024,302</i>	<i>\$25,515</i>	<i>\$2,049,817</i>

**Question 11:** Annual Revenue Received From Thermal Tipping Fees During FY04

**Answer:**

*Not applicable since Thermal did not operate.*

**Question 12:** Revenue Received From Customers of DES (Starting December 17, 2003 to June 30, 2004)

**Answer:**

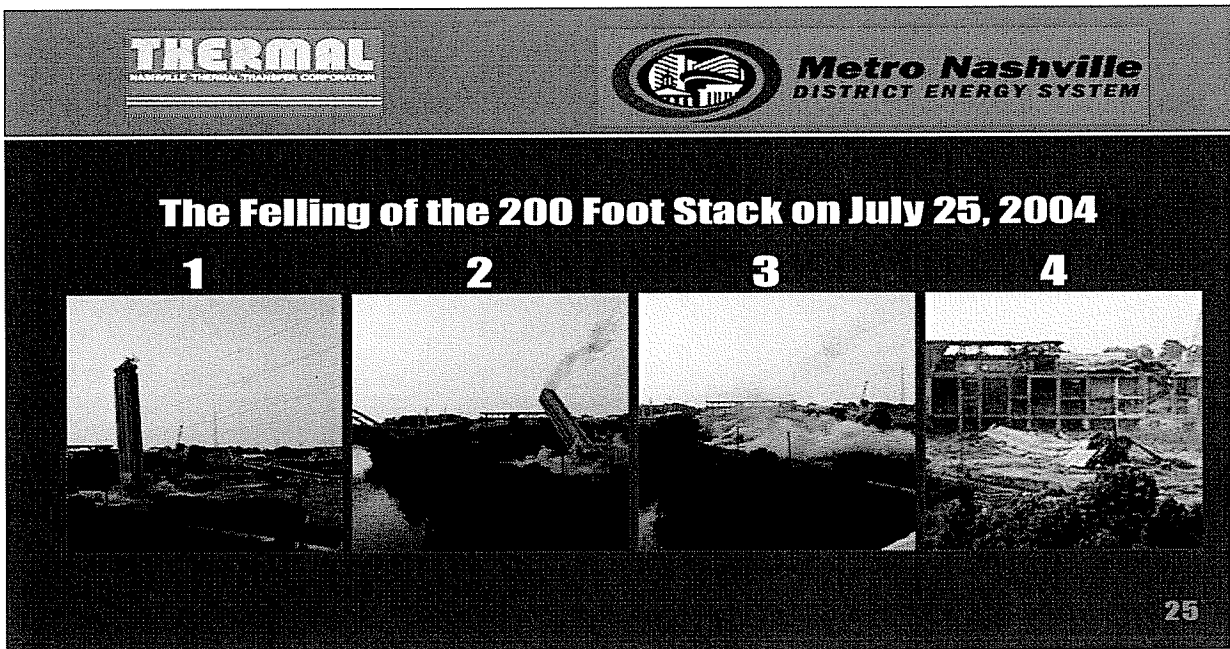
	<i>Steam</i>	<i>Chilled Water</i>	<i>Total</i>
<i>Metro</i>	<i>\$805,526</i>	<i>\$1,276,285</i>	<i>\$2,081,812</i>
<i>State</i>	<i>\$1,558,619</i>	<i>\$1,630,189</i>	<i>\$3,188,808</i>
<i>Private</i>	<i>\$752,367</i>	<i>\$1,227,239</i>	<i>\$1,979,606</i>

*Total*                      \$3,116,512        \$4,133,714        \$7,250,226

**Question 13:** Contract Compliance – Number and Type of Contract Violations For Thermal and/or DES During FY04

**Answer:**

*None*



## ***V. Contract Compliance***

Metro's contractors were in compliance.

## ***Minority/Women Participation***

**BFI 4 Females, 8 Males; 2 Black, 10 White**

**EWR 1 Male; 1 White**

## ***Environmental Violation***

**3 V1 notices**



**METRO PUBLIC HEALTH DEPARTMENT  
ENVIRONMENTAL HEALTH SERVICES**

***AIR QUALITY IN DAVIDSON COUNTY***

**Presented by  
Brent Hager, PhD, PE  
April, 2005**



***AIR QUALITY SERVICES***

***Major Activities***

- Monitoring ambient air quality
- Compiling emission inventories
- Formulating air pollution control strategies
- Providing compliance assistance to the regulated community
- Issuing permits to sources
- Inspecting facilities
- Carrying out enforcement activities
- Providing public education and outreach



## WHERE DOES MOST OF NASHVILLE'S AIR POLLUTION COME FROM?

POLLUTANT	SOURCE
PM <sub>10</sub>	84% from dust from paved roads
SO <sub>2</sub>	88% from fuel combustion
NO <sub>x</sub>	86% from on and off road mobile sources
CO	97% from on and off road mobile sources
VOC	66% from on and off road mobile sources

- ✦ As you can see, the key to healthy air quality in Nashville is minimizing air pollution from mobile sources.



## MOBILE SOURCES

- ✦ Mobile sources include both on-road and off-road sources.
- ✦ This source category includes cars, trucks, buses, airplanes, trains, lawn equipment, construction and agricultural equipment and boats.
- ✦ The criteria air pollutants emitted from mobile sources account for ~85% of the total amount of criteria pollutants emitted by all air pollution sources in Nashville.





## MOBILE SOURCES (cont.)



- ✦ This source category is generally the largest contributor to air pollution in middle and large size cities.
- ✦ A key strategy for managing air quality in cities is to minimize the emissions from the mobile source category.
- ✦ You can help by keeping your car tuned up, carpooling, walking or biking as much as possible and promoting and using mass transit.

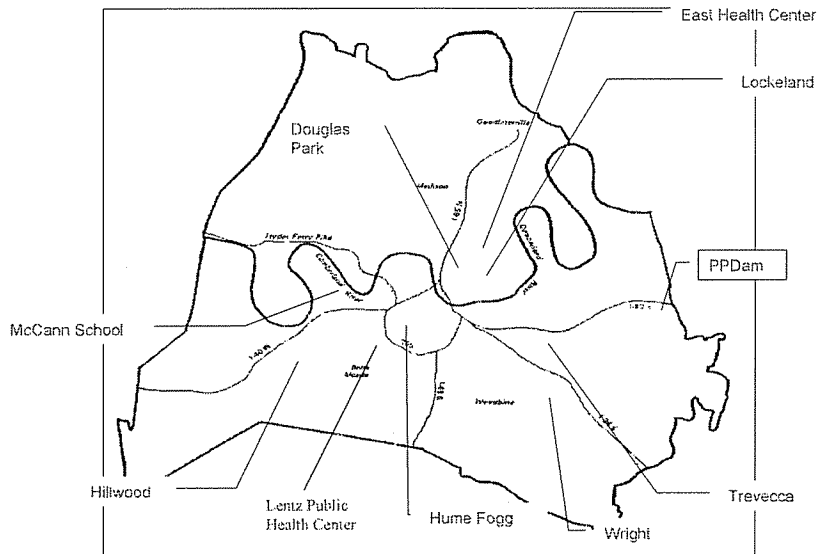


## NASHVILLE'S AIR QUALITY

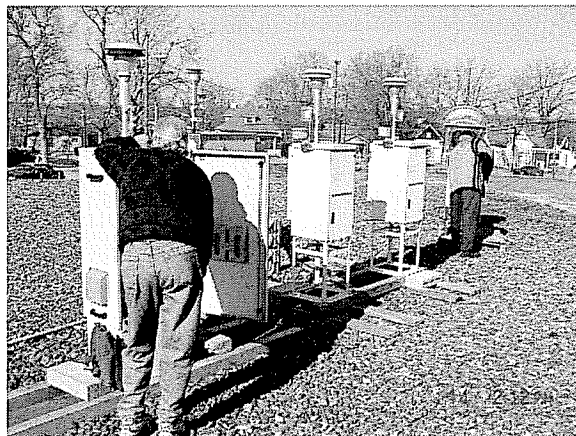
- ✦ The Nashville MSA, including Davidson County, is currently designated attainment for all National Ambient Air Quality Standards (NAAQS) except for the new, more stringent 8-hour ozone standard.
- ✦ The Pollution Control Division operates an ambient air monitoring network across Davidson County to determine compliance with the NAAQS.
- ✦ The pollutants measured are: particulate matter, sulfur dioxide, nitrogen oxides, carbon monoxide and ozone.



## AMBIENT AIR MONITOR LOCATIONS



## MONITORS ON LOCKELAND ROOF





## *NEW AIR QUALITY STANDARDS*

- ✧ The revised NAAQS for particulate matter and ozone are now in effect.
- ✧ A new standard was added for very small particulate matter called PM<sub>2.5</sub>.
- ✧ The ozone standard was revised and made more stringent by changing the averaging time from 1 hour to 8 hours and lowering the standard from 0.12 ppm to 0.08 ppm.
- ✧ The monitors in Davidson County were meeting the more stringent 8-hour ozone standard, but due to ozone monitors located in surrounding counties in the Nashville MSA, the Nashville MSA was not meeting the more stringent 8-hour standard in 2004 when designations were made by EPA.



## *WHAT ARE WE DOING?*

- ✧ Continuing implementation of the vehicle inspection program and enforcement of existing regulations.
- ✧ The program in Middle TN was expanded on April 1, 2005 to add light duty gasoline vehicles between 8,500 and 10,500 pounds, and for the first time, light duty diesel vehicles from 1975 to the present.
- ✧ Participating in the Nashville Early Action Compact (EAC) with TDEC, TDOT other Nashville MSA counties.
- ✧ We have completed our portion of the Nashville EAC to bring Davidson County and the Nashville MSA into attainment with the new 8-hour ozone standard.
- ✧ A plan has been prepared and submitted to EPA demonstrating that the Nashville MSA will attain the 8-hour ozone standard by 2007 and will continue to maintain the standard at least through 2017.
- ✧ Participating in a daily Nashville MSA air quality forecast.
- ✧ Developing the Clean Air Partnership of Middle Tennessee.

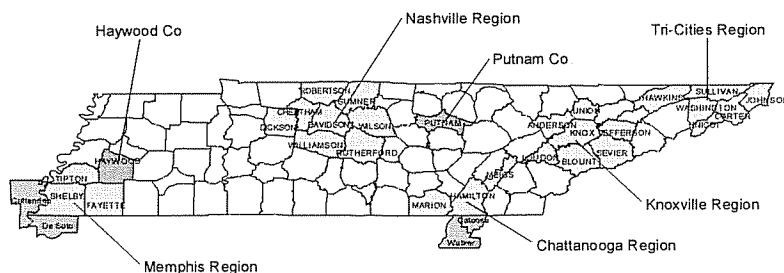


## NASHVILLE EAC

- ✦ Early Action Compacts (EACs) are voluntary agreements to meet clean air standards quicker.
- ✦ These agreements are between the state, EPA, and the local elected officials of those counties and cities in the state that have been designated as 8 hour ozone non-attainment areas by EPA on April 15, 2004.
- ✦ The EACs provide a voluntary mechanism to meet the 8-hour ozone standard by 2007 – **cleaner air faster**.
- ✦ As an enticement for the state to develop a plan to attain the 8-hour ozone standard on an accelerated schedule, EPA agreed to defer the non-attainment designations that were made for traditional ozone non-attainment areas on April 15, 2004.



## ORIGINAL PROPOSED EAC REGIONS IN TENNESSEE





## *Nashville EAC (cont.)*

- ✦ The Nashville EAC area was one of only two areas in the State that received an initial deferral from EPA on April 15, 2004.
- ✦ Our deferral was granted because our plan met all the EPA requirements and showed that the area would demonstrate attainment of the 8-hour standard by December 31, 2007.
- ✦ The other area was the Tri-Cities Region.
- ✦ The Chattanooga EAC has modified their original plan, and EPA has subsequently granted that area a deferral also.
- ✦ The Nashville EAC area has received a deferral of conventional nonattainment restrictions until December 31, 2005.
- ✦ EPA has committed to continue the deferrals as long as the Nashville EAC partners continue to implement the approved plan and the compact remains in effect.
- ✦ The Nashville EAC plan is centered on mobile source control and reducing vehicle miles traveled.



## *Nashville EAC Control Measures*

- ✦ Ban on open burning of land clearing material on forecast high ozone days
- ✦ Clean Air Partnership of Middle Tennessee program
- ✦ HOV lane expansion
- ✦ Trip reduction plans
- ✦ Rideshare programs
- ✦ Traffic signal synchronization
- ✦ Roadside assistance program
- ✦ New greenways/bikeways
- ✦ Improve bus ridership
- ✦ New rail service
- ✦ Land use control to reduce vehicle miles traveled



## *Clean Air Partnership of Middle Tennessee*

- ✦ The Partnership announces Air Alerts on EnviroFlash (a free subscription email service), in the local news media and on TDOT message signs.
- ✦ The Partnership encourages the public to change behavior that contributes to air pollution (i.e. driving, mowing and energy use).
- ✦ The Partnership works with local businesses to encourage employees to choose alternative commuter options.
- ✦ Members of the Partnership include MPHD, Nashville MPO, MTA, RTA, TDEC, TDOT, Vanderbilt University, HCA Healthcare, Clean Cities of Nashville and the American Lung Association (ALA).
- ✦ You can sign up for email EnviroFlash Air Alerts at: [www.cleanairpartnership.info](http://www.cleanairpartnership.info)



## *SUMMARY*

- ✦ We have come a long way, and Nashville is in attainment with the old 1-hour ozone standard and the new PM<sub>2.5</sub> standard.
- ✦ We are making progress and we have a plan to bring the Nashville MSA into attainment with the new, more stringent 8-hour ozone standard.
- ✦ Our EPA approved plan shows that we will attain the 8-hour ozone standard in Middle Tennessee by December 31, 2007.
- ✦ In fact, as of December 31, 2004, the Nashville MSA was meeting the more stringent 8-hour ozone standard three years earlier than predicted.
- ✦ We are committed to do our part to ensure that the Nashville MSA attains and maintains the 8-hour ozone standard.



## AIR QUALITY SERVICES

*Useful Telephone Numbers and Websites*

Metro Public Health Department

<http://healthweb.nashville.org/psipoll.html>

(AQI, Air Quality Forecast & Pollen recording)

Clean Air Partnership of Middle Tennessee

<http://www.CleanAirPartnership.info>

Air Quality Services

(615) 340-5653

